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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,345	09/24/2001	Yukihiro Kusano	Q65935	4619

7590 01/31/2005

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Washington, DC 20037-3213

EXAMINER
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TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/960,345

Applicant(s)

KUSANO ET AL

Examiner

Norca L. Torres-Velazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed November 24, 2004 have been fully considered but they are not persuasive.

a. Applicants refers to the remarks filed with amendment of June 21, 2004 in which Applicants argued against the rejection based on unexpectedly superior results of the present invention in comparison the JP'010 prior art.

It was noted by the Examiner that the Applicants did not address the rejection of the claims over the combination YOSHIKAWA et al. ('932) in view of JP 10-053010. Applicants remarks citing MPEP 716.02(c) are noted herein, however, the unexpected results presented by Applicants are indeed in comparison to the closest prior art of JP '010 that is directed to a nonwoven fabric in a rubber-filament complex of a fiber reinforced member layer in a pneumatic radial tire. The outstanding rejection provides the reference of YOSHIKAWA et al. as the primary reference which teaches a substrate that is coated with metal a process such as sputtering and that a rubber composition can firmly bond to the resulting metal thin film. The reference further teaches that the substrate is selected depending on the intended application and mentions applications such as tires. The Examiner provides the JP '010 reference to provide motivation for using a nonwoven substrate in applications directed to tires. It is the Examiner's position that Applicants comparative results compared to the JP '010 satisfy Applicants burden of evidence for the unexpectedly superior results of the present invention is not proper since the outstanding rejection does not rely on the structure of the JP '010 to reject the present

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claims but to show motivation to use a nonwoven material as the substrate for the composite material taught by YOSHIKAWA et al. for applications directed to tires.

With regards to the limitation reciting, "forming a continuous layer..." it is noted that the YOSHIKAWA et al. reference teaches that the metal material is deposited on the substrate as a thin film. It is the Examiner's position that a film is a continuous layer.

With regards to amended claim 6, it is the Examiner's position that the presently claimed tire structure would have been obvious in view of the tire structure disclosed by the JP '010 reference.

Alternatively, it is the Examiner's position that it would have also been obvious to provide the tire structure disclosed by the JP '010 reference with the composite material taught by YOSHIKAWA et al. with the motivation of using a rubbery composite material having improved adherence by bonding a rubber composition to the nonwoven substrate without resorting to an adhesive or wet plating.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being obvious over YOSHIKAWA et al. (US 4,872,932) in view of JP 10-053010.

YOSHIKAWA et al. discloses a method for preparing rubbery composite materials and teaches that a metal such as zinc, copper, cobalt, and an alloy thereof can be integrated into a

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rubber composition to form a rubbery composite material exhibiting a firm bond between the components by press bonding the metal at a temperature which approximate to the temperature at which the rubber composition is usually heated for vulcanization; that these material can be readily deposited on a substrate as a thin film by a dry plating process such as vacuum deposition, ion plating, DC and RF magnetron sputtering, bipolar sputtering and RF sputtering processes; and that a rubber composition can firmly bond to the resulting metal thin film. (See Column 3 lines 34-45) The reference further teaches that the substrates that can be used in the practice of their invention are not particularly limited with respect to their material type, shape, and size, and that these may be properly selected depending on the intended application. (See Column 5, lines 18-41) Further, the reference teaches that the rubbery composite materials of their invention will find wide applications in steel tires, conveyor belts, and hoses, among others. (Column 4, lines 62-64)

While the teachings of the '932 reference do not preclude the use of a non-woven fabric, the use of non-woven fabrics as reinforcements for applications such as tires is well known as it is taught by the JP 10-053010 reference below.

The JP 10-053010 reference teaches the use of unwoven fabric (non-woven fabric) in a rubber-filament complex of a fiber reinforced member layer in a pneumatic radial tire. (Abstract)

Further, it is the Examiner's position that the tire structure claimed in claim 6 would have been obvious in view of the tire structure disclosed by the JP '010 in which the reinforcing layer is located between a carcass layer and a sidewall.

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Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the rubbery composite material and provide it with a non-woven fabric with the motivation of improving the rigidity and stability of the article including the composite material as disclosed by the JP 10-053010 reference.

**4. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

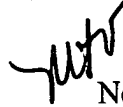
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

**5.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Norca L. Torres-Velazquez  
Examiner  
Art Unit 1771

January 27, 2005